National Institute of Environmental Health Sciences

Climate change and infectious diseases in Europe

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Abstract:

Concerted action is needed to address public health issues raised by climate change. In this Review we discuss infections acquired through various routes (arthropod vector, rodent, water, food, and air) in view of a changing climate in Europe. Based on an extensive review of published work and expert workshops, we present an assessment of the infectious disease challenges: incidence, prevalence, and distribution are projected to shift in a changing environment. Due to the high level of uncertainty on the rate of climate change and its impact on infectious diseases, we propose to mount a proactive public health response by building an integrated network for environmental and epidemiological data. This network would have the capacity to connect epidemic intelligence and infectious disease surveillance with meteorological, entomological, water quality, remote sensing, and other data, for multivariate analyses and predictions. Insights from these analyses could then guide adaptation strategies and protect population health from impending threats related to climate change.

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Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Health Professional, Policymaker

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Food/Water Quality, Food/Water Quality

Food/Water Quality: Pathogen, Pathogen

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease, Respiratory Effect

Infectious Disease: Airborne Disease, Foodborne/Waterborne Disease, Vectorborne Disease, Zoonotic Disease

Airborne Disease: Respiratory Synctial Virus (RSV), Other Airborne Disease

Airborne Disease (other): Legionella

Foodborne/Waterborne Disease: Campylobacteriosis, Cholera, Cryptosporidiosis, Salmonellosis, Vibrioses

Vectorborne Disease: Fly-borne Disease, Mosquito-borne Disease, Tick-borne Disease

Fly-borne Disease: Leishmaniasis

Mosquito-borne Disease: Chikungunya, Dengue, Malaria, West Nile Virus

Tick-borne Disease: Crimean-Congo Haemorrhagic Fever, Lyme Disease, Tick-borne Encephalitis

Zoonotic Disease: Hantavirus Pulmonary Syndrome, Other Zoonotic Disease

Zoonotic Disease (other): Plague

Respiratory Effect: Other Respiratory Effect

Respiratory Condition (other) : Legionella

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified